



CFLs – Market Challenges

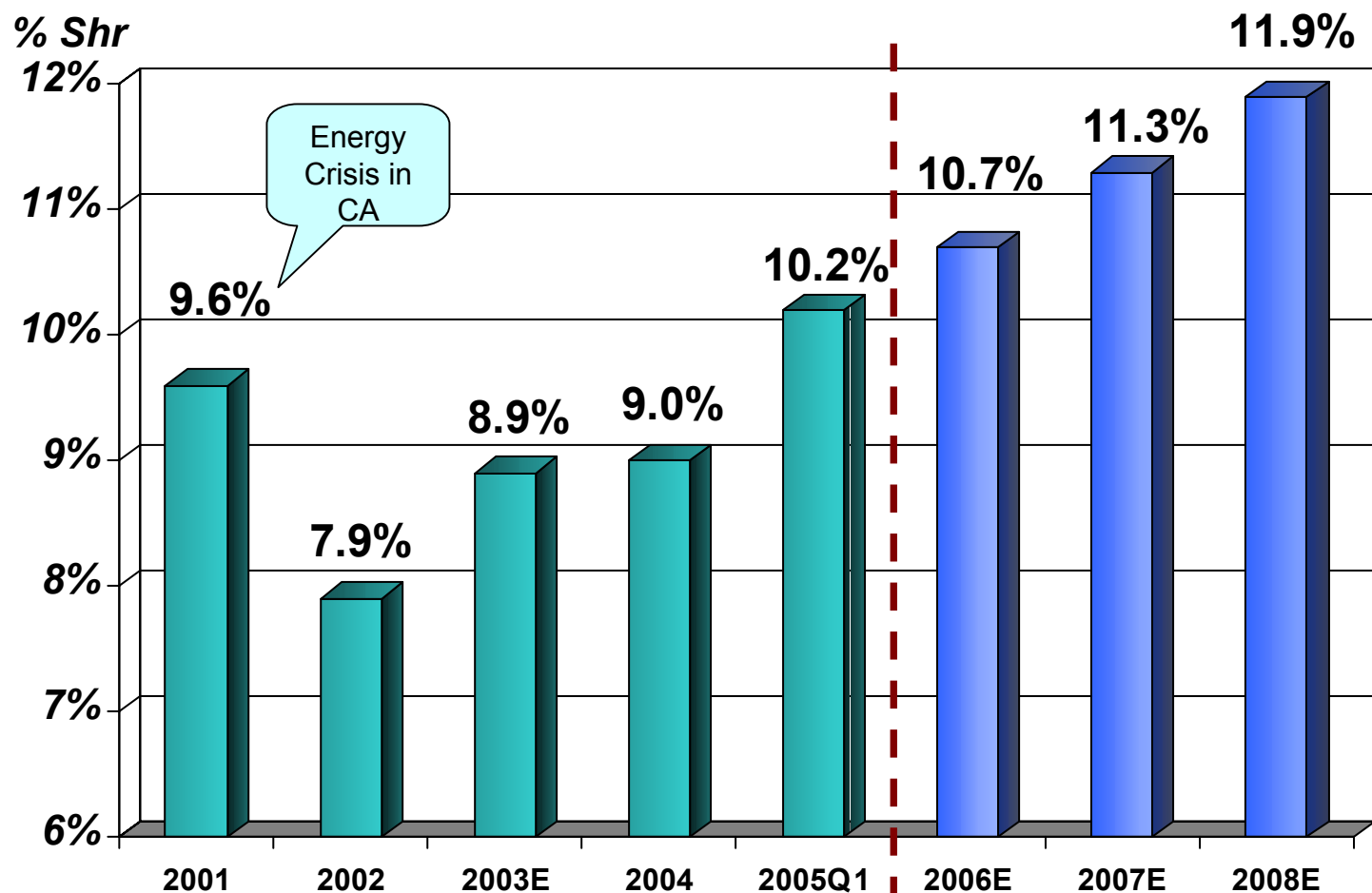
Jeffrey Bristol
March 1, 2006

CFL Environment

- **Market Overview**
- **Application Trends**
- **Regulations/Market Insights:**
- **Supply & Demand**

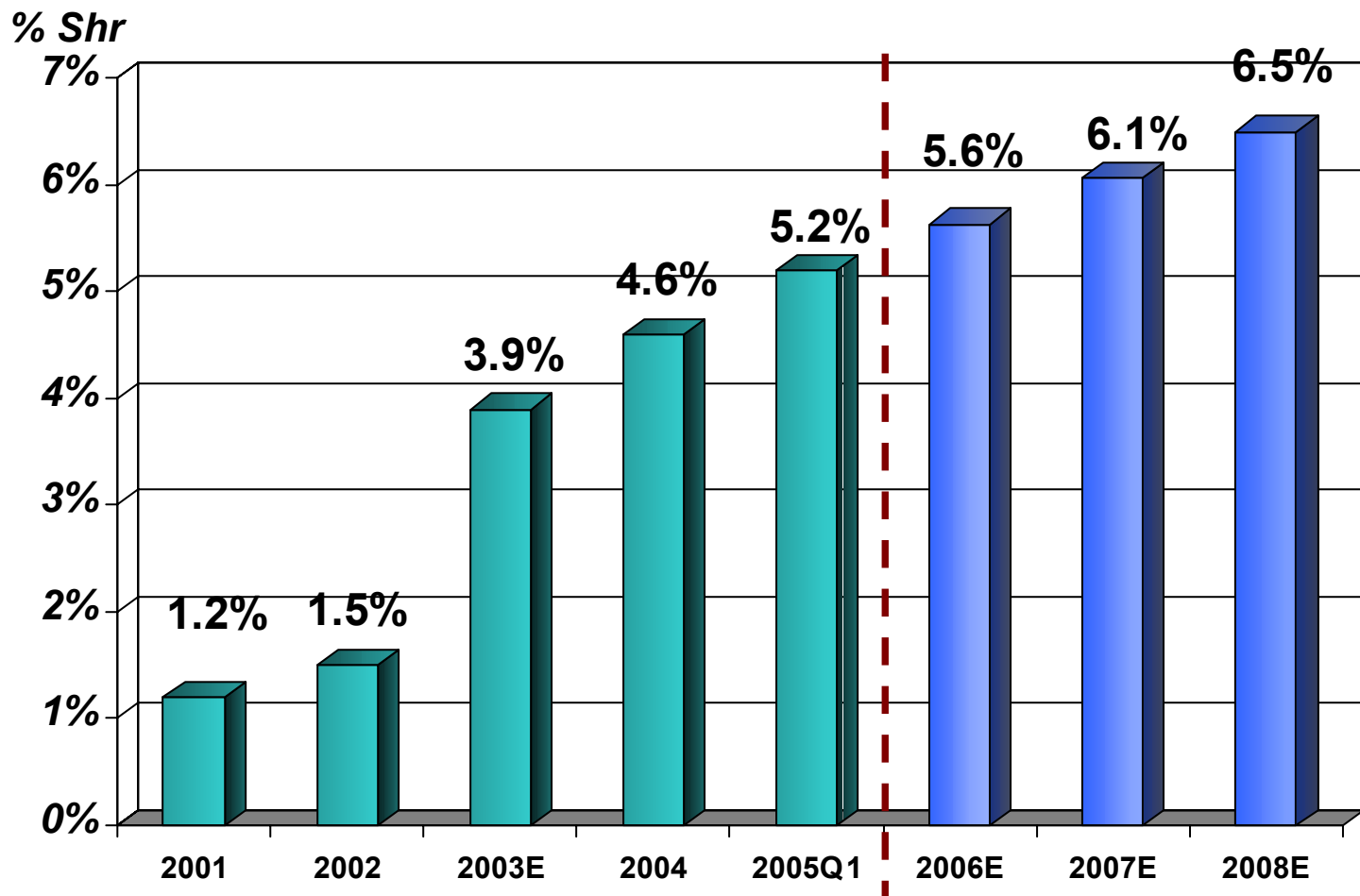
Market Overview

CFL Dollar Share of Total Lighting Segment



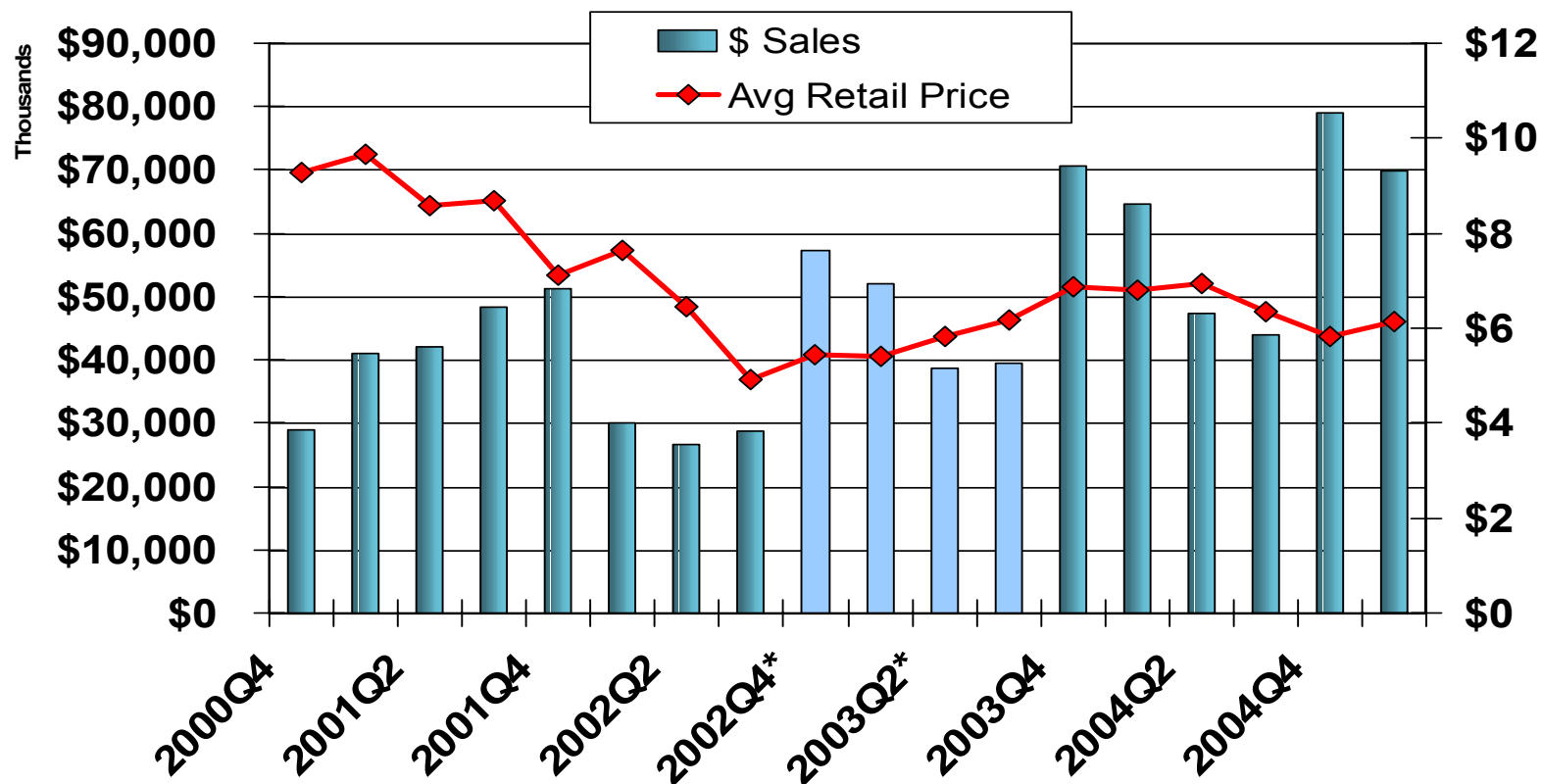
- The CFL Category continues to take share away from the incandescent segment
- CFL Category will continue to grow, driven by ENERGY STAR, environmental concerns and product improvements

CFL Unit Share Growth of Total Lighting Segment



- The CFL segment continues to take away share from incandescent lamps
- Due to higher price points vs. other technologies, CFL unit share continues to be lower than in dollars

CFL Category Price and Sales Trends



Compact Fluorescent Mix Shift Opportunities

		2006			2008		
		Percent of mix	Percent dimming	Percent 3-Way	Percent of mix	Percent dimming	Percent 3-Way
Lamp types	Twister Standard	85%					
	Super Mini-Twister				60%	20%	5%
	A-Shape	1%			15%	50%	10%
	Reflectors	13%	1%		15%	50%	
	Decorative	1%			10%	20%	

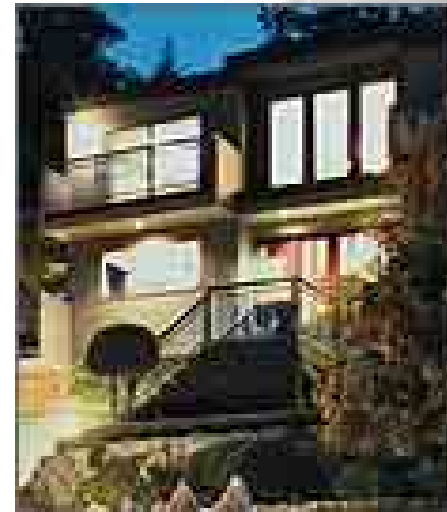
As CFL understanding, performance, size & shape gets closer to Incandescent, more consumers will trend towards the purchase of familiar looking lamps

Application Trends

Consumer Understanding

Application trends:

- Higher light output
- Improved start up
- Increased Life
- Improved light quality
- Dimmability frequently requested (Professional and Consumer)
- More compact light sources
- Equal to Size, Shape & Performance of Incandescent



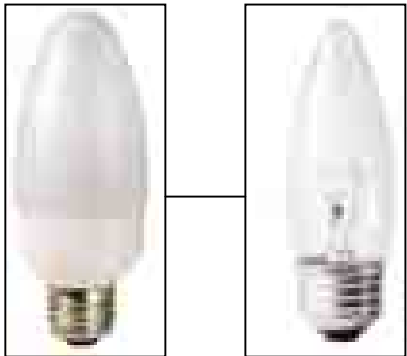
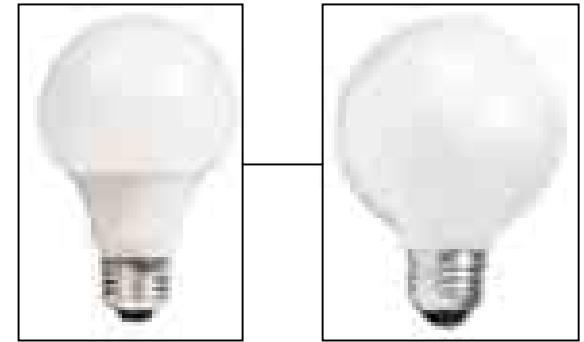
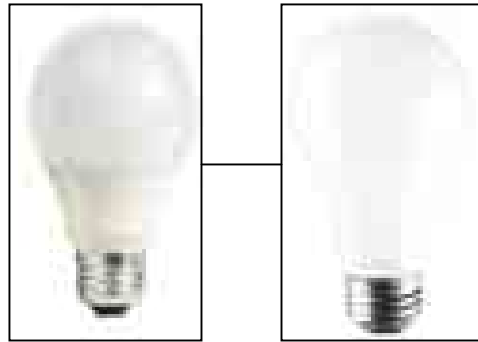
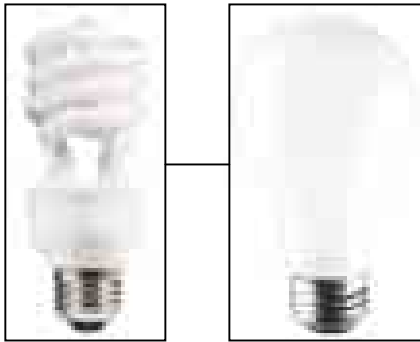
Consumer Understanding

- Consumer Misconceptions:
 - CFLs / Fluorescents give off a harsh, off-color light
 - CFLs do not start immediately
- Consumer Lack of Knowledge Regarding CFLs
 - Shape is not as aesthetic as standard A19
 - “Just a light bulb” but it costs more than a standard A19

“Peter Morante, director of energy programs at the Lighting Research Center at Rensselaer Polytechnic Institute in Troy, N.Y., said the government's Energy Star ratings have given skeptical consumers confidence that CFLs will perform as advertised. Still, he predicted it might be another decade before CFLs rival incandescent bulb sales.”

”Growth Shines on Fluorescent Bulb Market,” *New York Times*, Published: February 20, 2006

Consumers want CFL's to Function and Look like Incandescent Counterparts

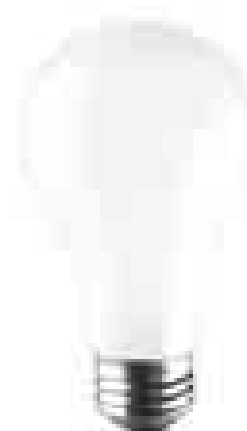


Philips ENERGY SAVER60 Soft White Plus

16w = 60w CFL Vs. 60w Soft White Incandescent



5.31"



4.44"

Product	Watts	Hours	Light Output	Kelvin Temp.	Height
Marathon Classic 16w CFL	16w = 60w	8,000	800 lumens	2700	4.52"
Incandescent Soft White	60w	750	850 lumens	2700	4.91"

Philips ENERGY SAVER65 R30

16w = 65w BR30 CFL vs. 65w BR30 Incandescent



5.72"



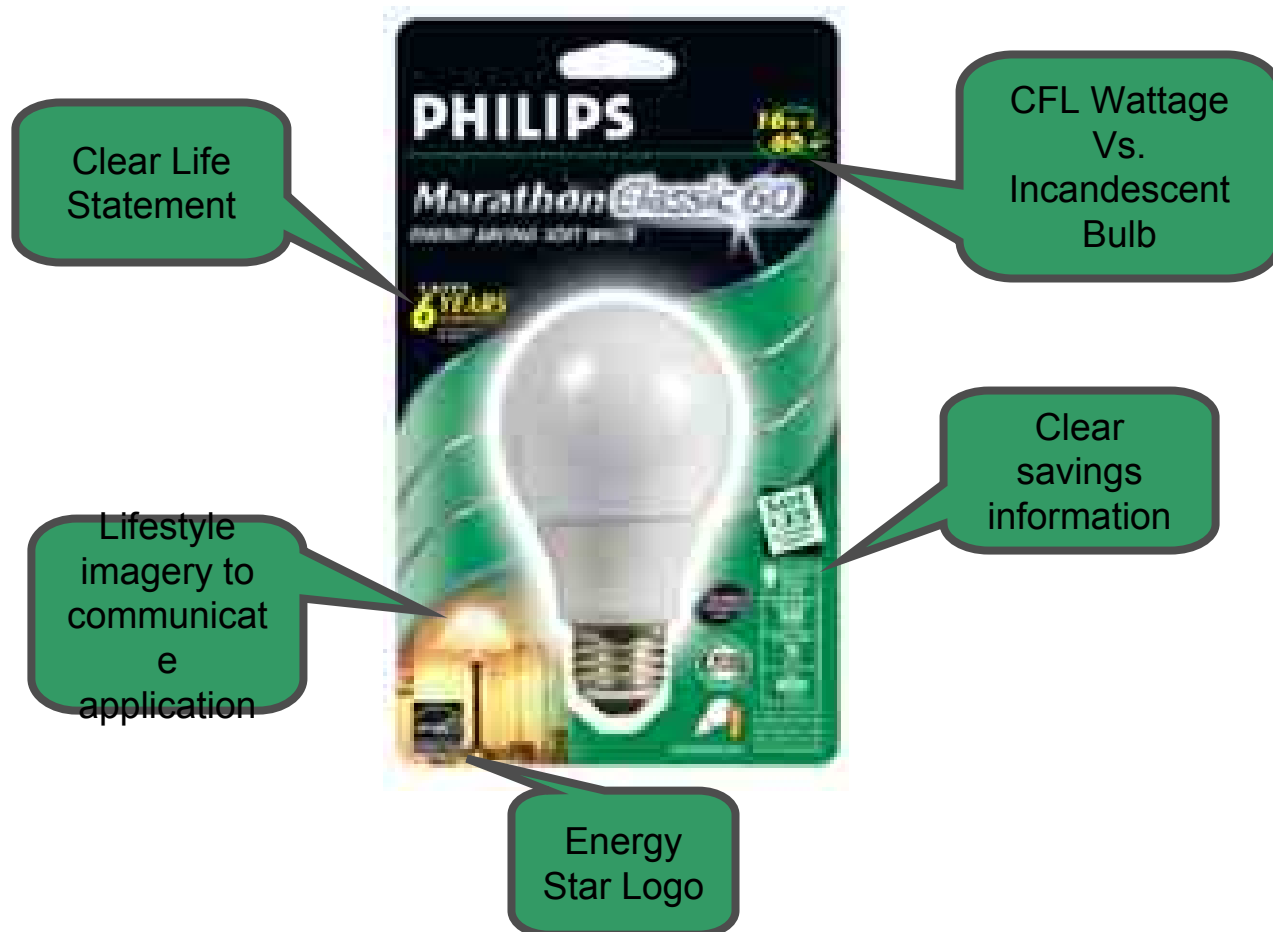
5.38"

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Product	Watts	Hours	Light Output	Kelvin Temp.	Height
Marathon Classic 16w BR30 CFL	16w = 65w	8,000	750 lumens	2700	5.40"
Incandescent BR30	65w	2000	750 lumens	2700	5.38"

Clear Consumer Packaging

- Product packaging must be designed to communicate the key product attributes and differentiators



Consistent Industry Standards For Life/Color



There is Consumer Frustration with Inconsistent Colors Temperatures and Life statements

Regulations & Insights

Trends Impacting CFLs

Environmental/Legislation

Energy Star

- Utility rebates to increase market penetration

California Title 20 and 24 legislation

- Moving industry to creating more efficient lamps through legislation
- Affecting existing fixtures and new construction

Mercury Awareness

- Ten states have introduced bills to regulate the labeling and/or disposal of fluorescent lamps*
- At least 28 states are currently considering enacting legislation for various household products containing mercury*

Social Consciousness

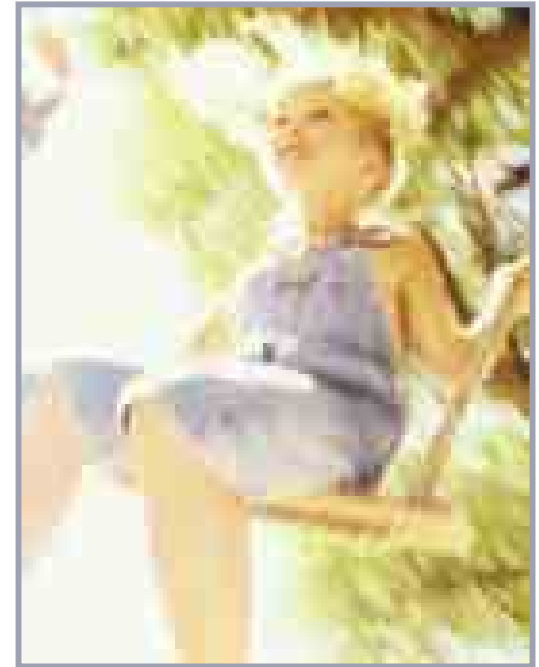
- Oprah and Hillary Clinton promoting CFL and “Change a Light Program”

The Greening of America: Americans are more environmentally conscious

Trends Impacting CFLs

Regulations:

- New Energy Star 4.0 version in works
- Epact 2006/2007 – Stronger restrictions on CFL (Must all meet Energy Star 2.0)
- Greater Emphasis on PNNL – high temperature reflector testing
- California Title 20 and 24
- TCLP for CFL's Reduced Mercury (< 5mg per Lamp)



Manufacturers Need to be Commitment to Sustainable Development

“We firmly believe that social and environmentally responsible behavior contributes to sustained profitable growth and value creation. That’s why we are embedding sustainability thinking and acting throughout our organization.

Sustainability is built into our heritage, our values, and our commitment to improve the quality of people’s lives.”

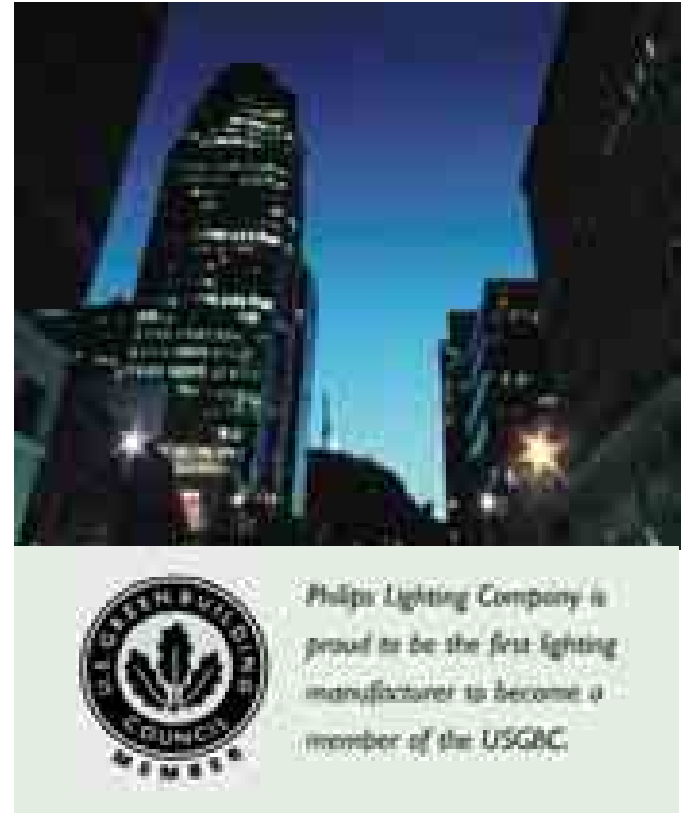
- Gerard Kleisterlee,
President, Royal Philips Electronics
www.philips.com/sustainability



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Manufacturers Need to be Commitment to Sustainable Development

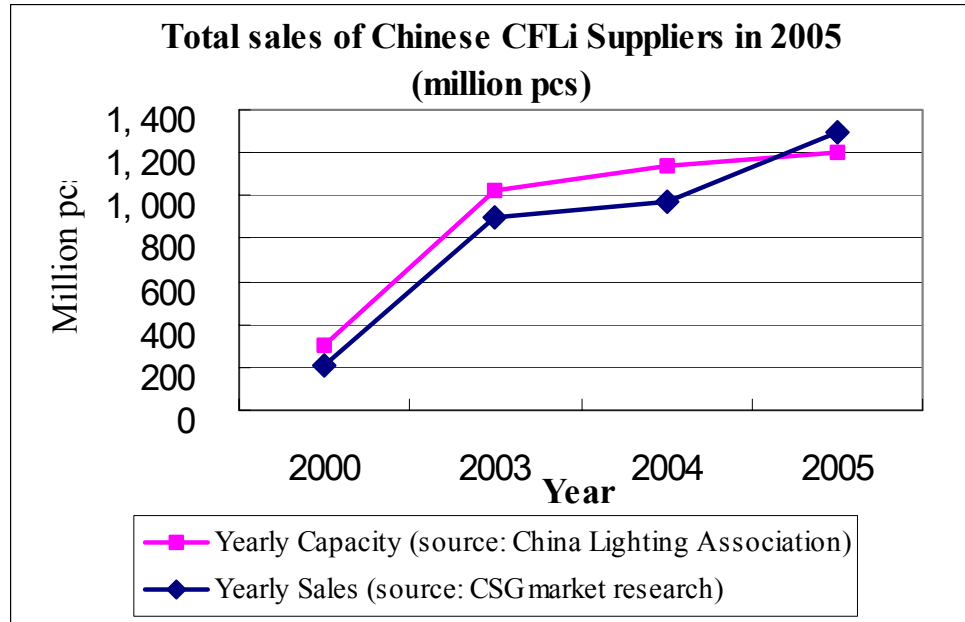
- Sustainable Lighting Solutions:
 - Reduce:
 - Energy
 - Toxicity
 - Long Life
 - Reuse:
 - Materials
 - Packaging
 - Recycle:
 - All lamps at the end of useful life



We're setting higher standards
and leading the way.

Supply & Demand

China's CFLi supply side summary



- Growth in CFLi continued in 2005
 - 2000-2003: 4 times volume (average 58% increase per year)
 - 2003-2004: ~15% increase
 - 2005: >30% sales increase
- Capacity utilization in 2005 is 80% vs. 70% in previous year. due to increased demand. Shortages in burners and glass
- European Standards for Lead-Free Glass/Solder as well as diminishing costs of product are causing manufacturers to rethink expansion and additional manufacturing

Discussion

